

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application.

1. (Currently Amended) A detecting machine for scanning both sides of a sheet-like object ~~to and optically detect~~ detecting compositions of ~~the~~ both sides of the object, the detecting machine comprising:

a first-side light emitting device and a first-side light ~~receiving~~ detecting device disposed ~~closely~~ close to each other on a first side of the object, the first-side light emitting device including a plurality of light emitting elements emitting light beams in respective different wavelength bands;

a second-side light emitting device and a second-side light ~~receiving~~ detecting device disposed ~~closely~~ close to each other on a second side of the object, the second-side light emitting device including a plurality of light emitting elements emitting light beams in respective different wavelength bands; and

an emission controller for controlling the first-side light emitting device and the second-side light emitting device ~~to so that~~ respective light emitting elements of the first-side light emitting device and respective light emitting elements of the second-side light emitting device emit light at respective different emission times different from each other times, wherein

the first-side light emitting device is disposed at ~~an~~ a position opposite position ~~to the second-side light receiving~~ detecting device, with the object ~~in~~ between the first-side light emitting device and the second-side light detecting device,

~~wherein the first-side light receiving~~ detecting device is disposed at ~~an~~ opposite a position ~~to opposite~~ the second-side light emitting device with the object ~~in~~ between the first-side light detecting device and the second-side light emitting device, and

~~wherein in composite detection is carried out to make~~ the first-side light ~~receiving~~ detecting device ~~detect~~ detects first-side reflected light emitted from the first-side light emitting device and reflected ~~on~~ from the first side of the object, and ~~to make~~ the second-side light ~~receiving~~ detecting device ~~detect~~ detects transmitted light emitted from the first-side light emitting device and transmitted by the object and second-side reflected light emitted from the second-side light emitting device and reflected ~~on~~ from the second side of the object, ~~so as to detect the compositions of the~~ both sides of the object.

2. (Currently Amended) The detecting machine according to Claim 1, wherein the first-side light emitting device and the second-side light emitting device are disposed so that light beams emitted from the respective devices ~~are irradiated into~~ irradiate a substantially identical ~~neighborhood~~ region of the object.

Claims 3 and 4 (Cancelled).

5. (Currently Amended) A validating machine ~~using~~ including:
a detecting machine for scanning both sides of a sheet-like object ~~to and~~ optically ~~detect~~ detecting compositions of ~~the~~ both sides of the object, ~~wherein the detecting machine comprises~~ and comprising:
a first-side light emitting device and a first-side light ~~receiving~~ detecting device disposed ~~closely~~ close to each other on a first side of the object, the first-side light emitting device including a plurality of light emitting elements emitting light beams in respective different wavelength bands;
a second-side light emitting device and a second-side light ~~receiving~~ detecting device disposed ~~closely~~ close to each other on a second side of the object, the second-side light emitting device including a plurality of light emitting elements emitting light beams in respective different wavelength bands; and

an emission controller for controlling the first-side light emitting device and the second-side light emitting device ~~to so that respective light emitting elements of the first-side light emitting device and respective light emitting elements of the second-side light emitting device~~ emit light at respective different ~~emission timings~~ different from each other times, wherein

the first-side light emitting device is disposed ~~at an~~ a position opposite ~~position to~~ the second-side light ~~receiving~~ detecting device, with the object ~~in~~ between the first-side light emitting device and the second-side light detecting device,

~~wherein~~ the first-side light ~~receiving~~ detecting device is disposed ~~at an opposite a position to~~ opposite the second-side light emitting device with the object ~~in~~ between the first-side light detecting device and the second-side light emitting device, and

~~wherein in~~ composite detection ~~is carried out to make~~ the first-side light ~~receiving~~ detecting device ~~detect~~ detects first-side reflected light emitted from the first-side light emitting device and reflected ~~on~~ from the first side of the object and ~~to make~~ the second-side light ~~receiving~~ detecting device ~~detect~~ detects transmitted light emitted from the first-side light emitting device and transmitted by the object and second-side reflected light emitted from the second-side light emitting device and reflected ~~on~~ from the second side of the object, ~~so as~~ to detect the compositions of ~~the~~ both sides of the object; and

~~the validating machine comprising~~ a determination validator for validating the object, based on ~~a result of the composite detection, in addition to the detecting machine.~~

6. (Currently Amended) The validating machine according to Claim 5, wherein the detecting machine outputs validation signals from the first-side light ~~receiving~~ detecting device and from the second-side light ~~receiving~~ detecting device, and the validating machine further ~~comprising~~ comprises an operation determiner for

determining whether each of the validation signals ~~outputted~~ output from the detecting machine is within a tolerance.

7. (Currently Amended) The validating machine according to Claim 6, wherein

the operation determiner ~~makes a determination on~~ determines whether a first-side reflection validation signal ~~outputted~~ output from the first-side light ~~receiving~~ detecting device, a second-side transmission validation signal ~~outputted~~ output from the second-side light ~~receiving~~ detecting device ~~receiving~~ detecting the transmitted light, and a second-side reflection validation signal ~~outputted~~ output from the second-side light ~~receiving~~ detecting device ~~receiving~~ detecting the second-side reflected light, are within ~~their~~ respective tolerances, and

~~wherein the determination validator validates the object, based on a result of the determination by the operation determiner.~~

8. (Currently Amended) The validating machine according to Claim 5, wherein the first-side light emitting device and the second-side light emitting device in the detecting machine are disposed so that light beams emitted from the respective first-side and second-side light emitting devices are irradiated into irradiate a substantially identical ~~neighborhood~~ region of the object.

9. (Currently Amended) The validating machine according to Claim 6, wherein the first-side light emitting device and the second-side light emitting device in the detecting machine are disposed so that light beams emitted from the respective first-side and second-side light emitting devices are irradiated into irradiate a substantially identical ~~neighborhood~~ region of the object.

10. (Currently Amended) The validating machine according to Claim 7, wherein the first-side light emitting device and the second-side light emitting device in

the detecting machine are disposed so that light beams emitted from the respective first-side and second-side light emitting devices ~~are irradiated into~~ irradiate a substantially identical ~~neighborhood~~ region of the object.

Claims 11-13 (Cancelled).

14. (New) The detecting machine according to Claim 1, wherein
the light emitting elements of each of the first-side light emitting device and the second-side light emitting device include respective light emitting devices emitting light within visible light and near infrared light bands, and

the emission controller controls emission of light by the first-side light emitting device and the second-side light emitting device so that light in the visible light band and light in the near-infrared band is not simultaneously emitted by the first-side light emitting device or the second-side light emitting device.

15. (New) The validating machine according to Claim 5, wherein
the light emitting elements of each of the first-side light emitting device and the second-side light emitting device include respective light emitting devices emitting light within visible light and near infrared light bands, and

the emission controller controls emission of light by the first-side light emitting device and the second-side light emitting device so that light in the visible light band and light in the near-infrared band is not simultaneously emitted by the first-side light emitting device or the second-side light emitting device.